



# Report of the Scientific Committee on Antarctic Research to the SCOR 2022 Meeting

## Summary

This paper presents the annual report of the Scientific Committee on Antarctic Research (SCAR) to the 2022 meeting of the Scientific Committee on Oceanic Research. In February 2022 SCAR was enlisted by The Prince Albert II of Monaco Foundation (PA2F) as a partner along with the International Arctic Science Committee (IASC) and the Oceanographic Institute of Monaco in the Polar Initiative. The 10th SCAR Open Science Conference ([www.scar2022.org](http://www.scar2022.org)) was held online from 1-10 August 2022, the second such online meeting following SCAR 2020 Online. The first hybrid format SCAR Delegates meeting took place in Goa, India from September 5-7<sup>th</sup>.

## Background

The mission of SCAR is to advance research in, from and about Antarctica and the Southern Ocean, and to promote scientific knowledge, understanding and education on any aspect of the Antarctic and Southern Ocean regions. To this end, SCAR is charged with the initiation and international coordination of Antarctic and Southern Ocean research beneficial to global society. SCAR provides independent and objective scientific advice and information to the Antarctic Treaty System and other bodies, and acts as the main international exchange of Antarctic information within the scientific community. Descriptions of SCAR's activities, and the scientific outputs and outcomes facilitated by SCAR are available at:

<https://www.scar.org/>.

## SCAR 2022 Highlights

The 10th SCAR Open Science Conference ([www.scar2022.org](http://www.scar2022.org)) was held online from 1-10 August 2022. The conference was hosted by the National Centre for Polar and Ocean Research (NCPOR) and the conference theme was "Antarctica in a Changing World". A total of 69 events ran over 10 days, including plenary lectures, mini-symposia, parallel sessions, workshops and satellite meetings. The presentations were spread across different time zones to enable participation across different time zones. Over 2,700 participants registered for the conference and 945 abstracts were submitted. Recordings will be available from the [SCAR Youtube channel](#) .

The PA2F set up the Polar Initiative ([www.thepolarinitiative.org](http://www.thepolarinitiative.org)) to enable it to take a more proactive role in polar conservation. The initiative is built as a four-year programme and the PA2F enlisted SCAR and IASC as partners, along with the Oceanographic Institute of Monaco. Other partners may be invited to collaborate on specific projects. In the framework of the Polar Initiative, the PA2F and its partners co-convened a [Scientific Symposium: From Arctic to Antarctic 'The Cold is Getting Hot!'](#) on 24-25 February 2022. The symposium was

held in person at the Oceanographic Museum of Monaco and was live-streamed for virtual attendees.

Training, support, and development of the Antarctic community continue to form a fundamental component of SCAR's work. In 2021, SCAR awarded [five early-career Fellowships](#), with a further two applicants being funded by the Council of Managers of National Antarctic Programs (COMNAP) and [three Visiting Scholar Awards](#). Fundraising efforts continued to increase international capacity for Antarctic research. For the next four years (starting in 2022), a Prince Albert II Fellowship will be awarded, funded by the PA2F through the Polar Initiative, and selected from among the successful applications in the broad research area of biodiversity and climate change.

The Southern Ocean contribution to the UN Ocean Decade ([www.sodecade.org](http://www.sodecade.org)) culminated in the publication of the Southern Ocean Action Plan in April 2022. Through the publication of the Southern Ocean Action Plan, the Southern Ocean Task Force, coordinated by SCAR and SOOS, aims to mobilise the Southern Ocean community and inspire all stakeholders to seek engagement and leverage opportunities to deliver innovative solutions that maintain and foster the unique conditions of the Southern Ocean. This framework provides an initial roadmap to strengthen links between science, industry and policy, as well as to encourage internationally collaborative activities in order to address existing gaps in our knowledge and data coverage.

The 2022 Antarctic Treaty Consultative Meeting (ATCM XLIV-CEP XXIV) was held in person in Berlin, Germany (also with some online participation). The SCAR delegation presented papers on topics including climate change, tourism, the Antarctic Environments Portal and a summary of SCAR-affiliated research activities relevant to the climate change science needs identified by the Committee Environmental Protection (CEP). SCAR also provided advice on other topics under discussion by the Parties such as special protection for emperor penguins, chemical contamination, and environmental monitoring. The Antarctic Climate Change and the Environment (ACCE) Decadal Synopsis report was strongly welcomed by Parties and referred to throughout the meeting. Hard copies of the report were provided to delegates, and large infographic banners were displayed in the meeting exhibition space. Prof Dr Hans-Otto Pörtner (Alfred Wegener Institute) delivered the SCAR Lecture on "Antarctic Climate Change and the Environment – a synopsis and recommendations for action", summarising the ACCE report and its scientific basis in the findings of recent Intergovernmental Panel on Climate Change (IPCC) reports.

The 2022 Medal recipients were announced on August 2<sup>nd</sup> 2022. The SCAR Medal for Excellence in Antarctic Research was jointly awarded to Prof Pippa Whitehouse of Durham University, UK and Prof Elisabeth Sikes of Rutgers University, USA. The SCAR Medal for International Scientific Coordination was awarded to Prof Stephen Ackley of the University of Texas at San Antonio, USA. The SCAR Medal for Education and Communication was awarded to Dr Bethan Davies of Royal Holloway University and Newcastle University, UK.

## Science Priorities

SCAR's three Scientific Research Programmes (<https://www.scar.org/science/srp/>) are the main vehicles through which SCAR facilitates and coordinates science in, from and about Antarctica. All three Scientific Research Programmes held community engagement sessions and kick-off workshops over the past months.

- **Integrated Science to Inform Antarctic and Southern Ocean Conservation (Ant-ICON)** is looking at the conservation and management of Antarctica and the Southern Ocean, focusing on research to drive and inform international decision-making and policy change.

In May 2022, two online community workshops, facilitated by Ant-ICON, were held on

the human dimensions of Antarctic conversation and management. The Scientific Research Programme also co-convened a mini-Symposium at the SCAR Open Science Conference in August 2022, focused on the practical mechanisms for delivery of SCAR science into the Antarctic Treaty System. Research theme 3 of Ant-ICON hosted an interactive workshop at the Scott Polar Research Institute in Cambridge in September 2022 to examine Antarctic conservation from a comparative perspective.

- **INStabilities and Thresholds in ANTArctica (INSTANT)** is a cross-disciplinary programme looking at quantifying Antarctica's contribution to past and future global sea-level change, helping decision-makers to better anticipate, manage, and adapt to sea-level rise.  
INSTANT has launched a Fellowship programme to support early-career researcher from under-represented regions. The first cohort of 5 Fellowship recipients was announced in June 2022. INSTANT Theme 2 will hold a workshop on the future of geodetic-geophysical observational networks in Antarctica in Fort Collins, USA, at the end of September 2022. The first international conference of INSTANT will be held in September 2023 in Trieste, Italy.
- **Near-term Variability and Prediction of the Antarctic Climate System (AntClimNow)** is looking at near-term Antarctic climate variability and trends, understanding contemporary climate change, and modelling future climate projections.  
AntClimNow has launched a yearly scheme to support the development and stewardship of Antarctic climate-monitoring datasets. The inaugural grants were awarded to two recipients in 2021. The call for the 2022 scheme has now closed and the recipients will be announced shortly.  
The Scientific Research Programme will hold a workshop on Connecting Models and Observations of the Antarctic Climate System Across Timescales in September 2022. This will provide an opportunity to share and discuss advances in the combined use of climate models, observations, and reconstructions across timescales from short-term extreme events to longer-term climatological means. In addition to the physical atmosphere-ocean-ice components of the Antarctic climate system, the scope will extend to considering climate interactions with biological systems.

## Recent Developments

- The XXXVII SCAR Delegates Meeting was held in Goa, India, from 5-7 September 2022. The meeting was held in a hybrid format so that delegates could attend in person or online. The meeting was hosted by the National Centre for Polar and Ocean Research (NCPOR) and Ministry of Earth Sciences, Government of India (MoES). SCAR Delegates from over 50 countries participated. Prof Burcu Ozsoy (Türkiye) was appointed as the SCAR Vice President for Capacity Building. Dr Marcelo Leppe (Chile) was elected Vice President for Administration. They will join SCAR President Dr Yeadong Kim (Republic of Korea) and continuing Vice President for Finance Prof Jefferson Cardia Simões (Brazil) and Vice President for Science Prof Deneb Karentz (USA). Luxembourg joined SCAR as a new Associate Member. SCAR now includes 46 member countries (comprising of 34 full and 12 associate members) and 9 ISC unions.
- The UN Oceans Conference took place in late June 2022 in Lisbon, Portugal. SCAR worked with the PA2F on a side event, held on 28 June, which built upon the Polar Symposium held in February, and continues development of the Polar Initiative. Titled "Polar oceans, Engine of the Global Ocean", the side event raised the profile of the role of the Arctic Ocean and the Southern Ocean as the engine of the Global Ocean system, facilitating the transport of nutrients, species, heat, biochemistry and pollution across the global ocean. The event was endorsed as an action of the UN Decade of Ocean Science for Sustainable Development. Speakers included Prof Mike Meredith (British

Antarctic Survey), Dr Sian Henley (University of Edinburgh), Dr Florence Colleoni and Prof Richard Bellerby, with the session being convened by Dr Renuka Badhe, Executive Secretary of the European Polar Board.

- For the UNFCCC COP27 Meetings to be held in Sharm El Sheik, Egypt, during November 2022, SCAR along with partners has been allocated an official side event titled “Slow Onset, Irreversible Events Beyond Adaptation: Global Stocktake, Implementation and 1.5° Ambition” which will include the contribution to sea level rise from Antarctica. SCAR is also working with SOOS and others on events at the Cryosphere Pavilion, with a proposed event titled “Southern Ocean ecosystems: need for augmented understanding, research efforts and protection” scheduled for Polar Oceans Day on November 10th.
- SCAR notes the excellent relationship with SCOR in delivery of the Southern Ocean Observing System (SOOS) and looks forward to collaborating with SCOR to support both communities’ engagement with SOOS over the coming year.